

ABSTRACT OF THE DISCLOSURE

For example, polysulfated phenylene sulfonic acid, aniline, and sodium chloride are mixed in water. During this process, the interactive absorption force between polysulfated phenylene sulfonic acid and aniline is decreased by sodium ion produced by the ionization of sodium chloride. In this state, aniline is easily polymerized to produce polyaniline, and polyaniline and polysulfated phenylene sulfonic acid are compatibilized with each other to produce a compatibilized polymer in a form of solid. The compatibilized polymer is separated from the solvent and then dissolved, then being formed to have a predetermined shape. Thus, a proton conductive solid polymer electrolyte is manufactured.